IN THE CLAIMS

Please cancel claims 5-8, 10-11, 16, 17 21-60, amend claims 1-3, 9, 15, and 18-20, and add new claims 61-68 as follows:

1. (CURRENTLY AMENDED) A method of profiling a tumor/cancer in a human tissue specimen[[s]], wherein said profiling comprises:

assessing PTEN tumor suppressor gene mutations, deletions, aberrant or absent PTEN mRNA or PTEN protein, or

assessing, diagnosis or prognosis of PTEN-related signal transduction pathway and its responsiveness to said pathway modulators such as agonists or antagonists, the method comprising:

(a) exposing said human tissue specimen[[s]] to one or a plurality of reagents to one or a plurality of products of genes,

(b) measuring quantitatively the levels of said one or said plurality of products of genes in said tissue specimen[[s]] including insulin-like growth factor binding protein 2 gene (GenBank Accession numbers of X16302 and S37730), and

(c) profiling said tumor/cancer from the quantitative levels of the said products of genes from step 1 (b).

2. (CURRENTLY AMENDED) The method of claim 1, wherein said human tissue specimen[[s]] is selected from a group consisting human tissue extracts, human cells, human tissues, organs, blood, blood serum, body fluids and a combination thereof.

3. (CURRENTLY AMENDED) The method of claim 1, wherein said human tissue specimen[[s]] is blood serum.

4. (CURRENTLY AMENDED) The method of claim 1, wherein said tumor/cancer is a prostate cancer, a breast cancer or a glioblastoma.

5-8. (CANCELLED)

9. (CURRENTLY AMENDED) The method of claim 1, wherein said profiling further comprises measuring quantitatively the levels of a gene is selected from a group consisting of ~~insulin-like growth factor binding protein 2 or IGFBP2 (GenBank Accession numbers of X16302 and S37730),~~ a hypothetical protein (GenBank Accession number of AF052186), TUA8 Cri-du-chat region (GenBank Accession number of AF009314), dual specificity phosphatase 10 or MPK-5 (GenBank Accession number of AB026436), Neuralized (GenBank Accession number of AF029729), regulator of G-protein signaling 1 or RGS-1 (GenBank Accession number of S59049), expressed in activated T/LAK lymphocytes or LAP-4p (GenBank Accession number of AB002405), gamma-tubulin complex protein 2 or GCP2 (GenBank Accession number of AF042379), human AMP deaminase gene or AMPD3 (GenBank Accession number of U29926), PFTAIRE protein kinase 1 or PFTK1 (GenBank Accession number of AB020641), and pleckstrin homology, see 7 and coiled/cold domains 1 or cytohesin 1 (GenBank Accession number of M85169) and a combination thereof.

10-11. (CANCELLED)

12. (ORIGINAL) The method of claim 1, wherein said products of genes is selected from the group consisting of gene mRNA transcripts, proteins encoded by genes, modifications of the encoded proteins and a combination thereof.

13. (ORIGINAL) The method of claim 1, wherein said reagents is selected from a group consisting monoclonal antibody, polyclonal antibody, nucleic acid of either RNA or DNA, polynucleotide, aptamer, other binders to a protein and a combination thereof.

14. (ORIGINAL) The method of claim 1, wherein said reagent is an antibody against insulin-like growth factor binding protein 2 or IGFBP2 (GenBank Accession numbers of X16302 and S37730).

15. (CURRENTLY AMENDED) The method of claim 1, wherein said measuring is performed using ~~methods selected from a group consisting of molecular hybridization methods such as~~ Northern blotting, in situ hybridization, branched DNA methods, ~~rolling cycle amplication (RCA)~~, RNA transcription methods, gene chip methods, cDNA microarray, polymerase chain

reaction (PCR), reverse transcription-PCR (RT-PCR), quantitative PCR (Q-PCR), Western blotting, immunocytochemistry, immunohistochemistry, fluorescent cell sorting, or ~~and~~ a combination thereof.

16-17. (CANCELLED)

18. (CURRENTLY AMENDED) The method of claim [[17]] 1, wherein said PTEN-related signal transduction pathway is the PI3K-Akt pathways.

19. (CURRENTLY AMENDED) The method of claim [[17]] 1, wherein said modulator is an antagonist or inhibitor.

20. (CURRENTLY AMENDED) The method of claim 19, wherein said antagonist is an Akt inhibitor[[s]].

21.-60. (CANCELLED)

61. (NEW) The method of claim 1, wherein:

said profiling comprises assessing loss of PTEN mRNA or protein; and

said loss of PTEN mRNA or protein is assessed by observing levels of insulin-like growth factor binding protein 2 polypeptide in the tissue specimen.

62. (NEW) The method of claim 61, wherein:

the one or a plurality of reagents to one or a plurality of products of genes comprises an antibody that binds insulin-like growth factor binding protein 2; and

the antibody that binds insulin-like growth factor binding protein 2 is used to observe secreted insulin-like growth factor binding protein 2.

63. (NEW) A method of profiling PTEN tumor suppressor in a human tissue specimen, wherein the profiling comprises assessing PTEN mutations, PTEN mRNA levels or PTEN protein levels in one or more cells in the human tissue specimen, the method comprising:

(a) exposing the human tissue specimen to a reagent that binds to a insulin-like growth factor binding protein 2 (IGFBP2, GenBank Accession numbers X16302 and S37730) mRNA or polypeptide,

(b) observing the presence or absence of binding between the reagent and the IGFBP2 mRNA or polypeptide in the human tissue specimen to quantitatively measure levels of the IGFBP2 mRNA or polypeptide in the tissue specimen, and

(c) profiling PTEN the human tissue specimen using the levels of the IGFBP2 mRNA or polypeptides observed in step (b).

64. (NEW) The method of claim 63, wherein the reagent comprises an antibody that binds insulin-like growth factor binding protein 2 polypeptide and the antibody is used to determine if levels of secreted insulin-like growth factor binding protein 2 polypeptide in the human tissue specimen are above or below 20 ng/ml.

65. (NEW) The method of claim 63, wherein

PTEN mRNA or protein expression is assessed using an antibody that binds insulin-like growth factor binding protein 2 polypeptide to observe levels of insulin-like growth factor binding protein 2 polypeptide expression in the tissue specimen, wherein:

increased insulin-like growth factor binding protein 2 polypeptide expression in the human cell correlates with decreased PTEN mRNA or protein expression in the human cell; and

decreased insulin-like growth factor binding protein 2 polypeptide expression in the human cell correlates with increased PTEN mRNA or protein expression in the human cell.

66. (NEW) The method of claim 63, wherein the one or more cells in the human tissue specimen comprise a prostate cancer cell, a breast cancer cell or a glioblastoma.

67. (NEW) A method of assessing PTEN tumor suppressor gene expression in a human cell, the method comprising:

examining levels of insulin-like growth factor binding protein 2 polypeptide (IGFBP2, GenBank Accession numbers X16302 and S37730) expressed by the human cell using an antibody that binds insulin-like growth factor binding protein 2 polypeptide;

wherein upregulation of insulin-like growth factor binding protein 2 polypeptide expression in the human cell correlates with decreased PTEN gene expression in the human cell;

so that PTEN gene expression in the human cell is assessed.

68. (NEW) The method of claim 67, wherein the reagent comprises an antibody that binds insulin-like growth factor binding protein 2 polypeptide and the antibody is used to determine if levels of secreted insulin-like growth factor binding protein 2 polypeptide in the human tissue specimen are above or below 20 ng/ml.